

### Tentative Course Calendar

Spring Semester 2003			
Week	Tu	-	Homework
W1	1/20		HW0out
W2	1/27		HW1out/HW0in
W3	2/3		HW2out/HW1in
W4	2/10		HW3out/HW2in
W5	2/17		Exam1
W6	2/24		HW4out/HW3in
W7	3/2		HW4in
W8	3/9		Exam2
W9	3/16		SpringBreak
W10	3/23		HW5out
W11	3/30		
W12	4/6		HW6out HW5in
W13	4/13		
W14	4/20		HW6in
W15	4/27		
W16	5/4		No class
W17	5/11		Exam3

The following describes a tentative list of topics that is intended to be covered in class.

#### Topics to be covered

- T1 : Introduction, Algorithm Design Techniques (Incremental, Divide-and-Conquer)
- T2 : Sorting Algorithms (Insertion, Selection, BubbleSort, MergeSort)  
Asymptotic growth of functions
- T3 : Recurrences
- T4 : Brief Review on elementary data structures (Stacks, Queues, Trees, Lists)
- T5 : HeapSort, PriorityQueues, Huffman Coding, and QuickSort  
(Worst-case and Average-case analysis)
- T6 : Non comparison-based Sorting (Count-Sort, Radix-Sort, and Bucket-Sort).  
Lower bounds on comparison-based sorting.
- T7 : Selection. Selection in Linear Time.
- T8 : Midterm.
- T9 : Hashing, Balanced Binary Search Trees ( Red-Black Trees).
- T10: Dynamic Programming and Chained Matrix Multiplication
- T11: Union Find Algorithms; Introduction to Graph Algorithms
- T12: Depth First Search, Breadth First Search, Minimum Spanning Trees.
- T13: Shortest path Algorithms (Dijkstra and Floyd-Warshall)
- T14: NP-completeness.